

Biofuel Assessment Conference in Copenhagen, 4 June 2007

Modelling Global Land Use and Social Implications in the Sustainability Assessment of Biofuels

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Land use: Cross-fertilising environmental, economic and geographical modelling to improve the environmental assessment of biofuel
Social aspects: Framing the assessment of social impacts of biofuel production

Jesper Kløverpris¹ and Henrik Wenzel²

¹ Department of Manufacturing, Engineering and Management, Technical University of Denmark (DTU) Building 424, 2800 Lyngby, Denmark (jk@ipl.dtu.dk)

² Faculty of Engineering, University of Southern Denmark, Campusvej 55, 5230 Odense M, Denmark (henrik.wenzel@kbm.sdu.dk)

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The aim of the conference is to cross-fertilise environmental, economic and geographical modelling to better predict global land use impacts of biofuels and include these in the environmental assessment. The conference will also address improvements of the framework for assessing social impacts related to biofuels.

Biofuels receive strong attention from private investors and public policy makers. The reasons for this include the striving for decreased dependency on oil and decreased emissions of CO₂. Several studies have addressed these impacts of the biofuel systems and compared them to other fuels but only few have been holistic, and a major lack is the absence of an assessment of the small and large scale changes in global land use which are associated with the production of the biomass from which the biofuels are produced. This means that policy makers are not being properly informed about one of the most important issues related to the foreseen increase in the use of biofuels. As a consequence, decisions involving prioritising between alternative uses of the land (e.g. food versus non-food production) and between alternative types of biofuels (e.g. biomass for heat & power, bio-ethanol or bio-diesel for transportation) are not adequately supported by existing studies. It is the aim of the conference is to contribute to filling this gap by focusing on the modelling of land use consequences through integration of economic modelling and geographical monitoring/modelling into the environmental and social life cycle models, which are applied in the assessment of the biofuel systems.

Within the LCA method development, it has been acknowledged in general that market information and economic knowledge are necessary to predict the consequences that Life Cycle Assessment strives to assess. In assessing land use consequences, this has proven to be crucial to get the models right.

It has, moreover, been acknowledged that geographical and historical information of global land cover changes and the monitoring and modelling of such contribute valuable information.

Conference format. The conference hosts a full programme of plenary presentations from invited international speakers within the scientific fields of LCA, economic market modelling, geographical monitoring/modelling and modelling of social implications.

Venue and time. Association of Danish Engineers Conference Centre, Copenhagen, Denmark, 4 June 2007

Organizing institutions:

- Dept. of Manufacturing Engineering and Management at Technical University of Denmark,
- University of Southern Denmark,
- OECD,

- Centre for Environmental Strategy at the University of Surrey (England),
- CIEMAT (Spain),
- Geographical Institute at the University of Copenhagen (Denmark),
- Danish Biomass Platform, Institute for Product Development (Denmark) and Research school 3R – Residual Resources Research

Sponsors:

- OECD's within the Co-operative Research Programme on Biological Resource Management for Sustainable Agricultural Systems
- Danish enzyme producer Novozymes A/S
- Consumer goods and vitality company Unilever
- Institute for Product Development – IPU, Denmark

Scientific programme committee:

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- Jesper Kløverpris, Technical University of Denmark (Co-chair)
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- Erik Steen Jensen, Risø National Laboratory (Denmark)

Contact

- Jesper Kløverpris (jk@ipl.dtu.dk), phone + 45 4525 4758, mobile +45 6167 3326 (DTU)
- Christine Molin (cm@ipl.dtu.dk), phone + 45 4525 4660, mobile +45 2122 9809 (DTU)

Related papers in Int J LCA

Kim S, Dale B (2006): Ethanol Fuels: E10 or E85 – Life Cycle Perspectives. Int J LCA 11 (2) 117–121

Upcoming:

Ometto AR, Hauschild M, Roma WNL, Souza MP (2007): Life Cycle Assessment of Fuel Ethanol from Sugar Cane in Brazil. Int J LCA <DOI: <http://dx.doi.org/10.1065/lca2007.04.320>>

Bhander G, Hauschild MZ, Christensen TH (under review 2007): EASE-WASTE – A dedicated LCA tool for waste management systems. Int J LCA

Kløverpris J, Wenzel H, Nielsen PH (under review 2007): Life Cycle Inventory Modelling of Land Use induced by Crop Consumption. Int J LCA
 Krabek A, Wenzel H, Nielsen PH, Skals PB (under review 2007): Environmental Assessment of Enzymatic Processing in Pulp and Paper Industry. Int J LCA

Olsen S, Hauschild MZ, Schmidt A, Hansen E (under review 2007): Life cycle impact assessment of toxicity in landfills. Int J LCA

Weidema BP, Hauschild MZ, Joliet O (under review 2007): Stepwise 2006 – A new environmental impact assessment method. Int J LCA